

English Summary of DE 1 180 537

The invention described in this document relates to a method for producing non cutting shaped workpieces made from magnesium alloy, in particular extrusion moulded profiles, said workpieces having a high creep resistance at increased temperatures. In order to achieve such a high creep resistance, the work pieces are non cutting shaped at a temperature above the recrystallisation temperature and then cold worked at a temperature below the said recrystallisation temperature. After cold working, the work pieces are annealed at a temperature above the recrystallisation temperature.

According to the first example, to which it is referred in the international search report, a rod having a diameter of 90 mm should be extrusion moulded at a temperature of 340°C, wherein a magnesium alloy including 6.6% aluminium, 0.81% as zinc and 0.13% manganese was used and wherein an average grain diameter was 0.019 mm. Three samples of this rod were then tested, wherein they were subjected to a load of 2 kg/mm² at a temperature of 200°C, wherein – prior to the load test – the three samples were subjected to different temperature treatments. A first sample was not subjected to any heat treatment. A second example was annealed at a temperature of 400°C for 24 hours and then chilled in water. A third sample was cold strained by 0.8%, then annealed for 24 hours at a temperature of 400°C and finally chilled in water. The creep behaviour of the three samples is shown in figure 1 which shows the strain in percent versus the time period of the load applied to the samples. The curve I corresponds to sample number 1, the curve II corresponds to sample number 2 and the curve III corresponds to the sample number 3; the curves clearly show that sample number 3 has the highest creep resistivity.